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EXAMINER

CHANKONG, DOHM

ART UNIT	PAPER NUMBER
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2152

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/844,856	Applicant(s) GARCIA-LUNA-ACEVES ET AL.	
	Examiner Dohm Chankong	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/2/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1> This action is in response to Applicant's amendment and arguments filed 7.2.2007.

Claims 1, 7 and 9 are amended. Claims 1, 3-9, and 11-14 are presented for further examination.

2> This is a final rejection.

Response to Arguments

3> Applicant's amendments to claims 1, 7, and 9 do not overcome the McCanne references. Applicant's primary argument centers on McCanne.2 and McCanne's disclosure of redirecting client requests to other nodes. Applicant argues McCanne's redirection functionality is not analogous to the amended limitations reciting a step for resolving an anycast address into a real unicast address. Applicant's arguments have been fully considered but they are not persuasive.

For example, McCanne (US 6.415.323) discloses mapping anycast addresses to a real unicast address. McCanne discloses that an anycast address is mapped to a service, the service having its own unicast addresses on the network [column 10 «lines 40-43»: "redirects the client to a *normally-addressed and routed (unicast) service node*"; McCanne's redirection functionality operates by returning the unicast addresses for service nodes that can provide the service to the client [column 15 «lines 1-34»]. While not expressly stated, one of ordinary skill in the art could reasonably infer the services (information objects) stored on that particular service node are also "normally addressed" and have unicast addresses as well.

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In other words, while McCanne does disclose redirection functionality, the redirection relies upon resolving the anycast address to a particular service [column 9 «lines 28-31»]. The particular service is located, and if redirection to another service node is required, the unicast address for the service and the service node is returned to the client [column 9 «lines 64-67» : service nodes relying on a DNS type directory to map the anycast address to a particular service]. The client is then redirected to that unicast address. Thus, McCanne teaches resolving an anycast address to a particular unicast address.

McCanne.2 (US 6.785.704) teaches similar mapping functionality. McCanne.2 teaches an APAR-DNS server that maps named service requests to targets [column 17 «lines 8-31»]. McCanne.2 discloses “returning the selected address” upon resolving the service request. The selected address is unicast [column 17 «lines 42-60»]. The anycast address N* is mapped to a unicast address so as to find the nearest APAR-DNS server configured to handle the requests for the unicast address [column 20 «lines 21-37» where : a unicast address is returned to the client in response to resolving the anycast address].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4> Only those claims that have been amended by Applicant are formally address in this action. For those claims not formally addressed here, refer to the previous non-final Office action, filed 1.17.2007, hereby incorporated by reference.

5> Claims 1, 3-9 and 11 are rejected under 35 U.S.C § 102(e) as being anticipated by McCanne et al, U.S Patent No. 6.785,704 ["McCanne.2"], in view of Partridge et al, "Host Anycasting Service" ["Partridge"].

6> As to claim 1, McCanne.2 discloses a method, comprising:

receiving, at an information object repository, a request for an information object at an address identified by a uniform resource locator (URL) [column 23 «lines 14-17» | column 25 «lines 57-66» where : McCanne.2's cache corresponds to a repository]; and

mapping the URL to a corresponding anycast address for the information object [column 23 «lines 14-17 and 56-60» | column 26 «lines 25-27» where : the cache resolves the URL to an anycast address for the web servers that have the requested content];

determining whether the anycast address can be resolved into a real unicast address that is uniquely identified for the information object in the Internet [column 20 «lines 21-37»];

resolving the anycast address for the information object to the unicast address for the information object, if the corresponding anycast address can be resolved into the unicast address [column 20 «lines 21-37» | column 21 «lines 9-16» | column 23 «lines 54-67»];

returning a failure if the anycast address cannot be resolved into the unicast address [column 14 «lines 46-54» | McCanne.2 does not explicitly disclose returning a failure but he does disclose relying on DNS. It is well known in the art that if a DNS is unable to resolve addresses, the DNS server will return an error to the requesting client. Thus, one of ordinary skill in the art would have reasonably inferred this functionality into McCanne.2's DNS servers as well]; and

obtaining a copy of the information object at the corresponding unicast address [column 23 «lines 54-67»].

McCanne.2, however, does not expressly disclose the resolving of the anycast address comprising sending an anycast resolution query to the anycast address according to an anycast resolution protocol.

7> Partridge is directed towards an internet anycasting service for IP [pg. 1, abstract]. Bhattacharjee discloses a DNS resolver resolving an anycast address by sending a request (query) to the anycast address [pg. 2, ¶1: "DNS resolvers...could send a query to a well known DNS anycast address | pg. 3, ¶2: "...send DNS queries to the DNS anycast address"].

It would have been obvious to one of ordinary skill in the art to incorporate Partridge's anycast address protocol into McCanne's anycast system. Partridge's teachings provide would improve McCanne's system by enabling DNS resolvers to properly resolve anycast addresses by sending queries to anycast addresses.

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8> As to claim 7, as it does not teach or further define over the previously claimed limitations, it is similarly rejected for at least the same reasons set forth for claim 1.

9> As to claim 8, McCanne.2 discloses the information object repository of claim 8 being further configured to advertise the anycast address using a network layer anycast routing protocol [column 15 «lines 9-14»].

10> Claim 9 is a claim to for a network with elements that perform the steps of the method of claim 1. Therefore, claim 9 is rejected for the same reasons as set forth for claim 1, *supra*.

11> Claims 1, 3-9 and 11 are rejected under 35 U.S.C § 102(e) as being anticipated by McCanne.2, in view of Bhattacharjee et al, "Application-Layer Anycasting" ["Bhattacharjee"].

12> Bhattacharjee was cited in by Applicant in the IDS filed 10.31.2006.

13> As to claims 1, 7, and 9, McCanne.2 discloses a method, comprising:

receiving, at an information object repository, a request for an information object at an address identified by a uniform resource locator (URL) [column 23 «lines 14-17» | column 25 «lines 57-66» where : McCanne.2's cache corresponds to a repository]; and

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mapping the URL to a corresponding anycast address for the information object [column 23 «lines 14-17 and 56-60» | column 26 «lines 25-27» where : the cache resolves the URL to an anycast address for the web servers that have the requested content];

determining whether the anycast address can be resolved into a real unicast address that is uniquely identified for the information object in the Internet [column 20 «lines 21-37»];

resolving the anycast address for the information object to the unicast address for the information object, if the corresponding anycast address can be resolved into the unicast address [column 20 «lines 21-37» | column 21 «lines 9-16» | column 23 «lines 54-67»];

returning a failure if the anycast address cannot be resolved into the unicast address [column 14 «lines 46-54» | McCanne.2 does not explicitly disclose returning a failure but he does disclose relying on DNS. It is well known in the art that if a DNS is unable to resolve addresses, the DNS server will return an error to the requesting client. Thus, one of ordinary skill in the art would have reasonably inferred this functionality into McCanne.2's DNS servers as well]; and

obtaining a copy of the information object at the corresponding unicast address [column 23 «lines 54-67»].

McCanne.2, however, does not expressly disclose the resolving of the anycast address comprising sending an anycast resolution query to the anycast address according to an anycast resolution protocol.

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14> Bhattacharjee is directed towards an anycasting communication paradigm [abstract].

Bhattacharjee discloses resolving an anycast address by sending a request (query) to the anycast address [Figure 1 (pg. 1389) | Figure 2 (pg 1391) where : the anycast domain name is analogous to claimed anycast address], which is correlated to a unicast address [Figure 1 | Figure 2 | Section 4.2 “Filter Specification” – “ADN to IP address mapping” where : the anycast address query returns an IP address to the client]. Since Bhattacharjee’s anycast address query|response functionality resolves the anycast address to a corresponding IP address, Bhattacharjee’s functionality is analogous to an anycast address resolution protocol.

It would have been obvious to one of ordinary skill in the art to incorporate Bhattacharjee’s anycast address protocol into McCanne’s anycast system. Bhattacharjee’s teachings provide would improve McCanne’s system by achieving proper anycast address resolution [see Bhattacharjee, pg. 1391, section 4 “Interacting with Anycast Resolvers”].

15> Claims 1, 3-9, and 11-14 are rejected under 35 U.S.C § 103(a) as being unpatentable over McCanne et al, U.S Patent No. 6.415.323 [“McCanne”], in view of McCanne.2, in further view of Bhattacharjee.

16> As to claims 1, 7, and 9, McCanne discloses a method, comprising:

receiving, at an information object repository, a request for an information object at an address identified by a uniform resource locator (URL) [column 15 <lines 59-60>];

mapping the URL to a corresponding anycast address for the information object [column 15 <lines 59-65>];

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determining whether the anycast address can be resolved into a real unicast address that is uniquely identified for the information object in the Internet [column 10 «lines 40-43» | column 15 «lines 1-34» | see response to arguments section above];

resolving the anycast address for the information object to a unicast address for the information object, if the corresponding anycast address can be resolved into the unicast address [column 10 «lines 36-43» | column 16 «lines 9-12 and 27-29»]; and

returning a failure if the anycast address cannot be resolved into the unicast address [column 9 «lines 28-47» where : McCanne does not explicitly disclose returning a failure but he does disclose relying on DNS. It is well known in the art that if a DNS is unable to resolve addresses, the DNS server will return an error to the requesting client. Thus, one of ordinary skill in the art would have reasonably inferred this functionality into McCanne.2's DNS servers as well].

McCanne discloses that the repository is enabled to directly service the client request [column 14 «lines 31-32»] but does not expressly disclose that the repository obtains the information object at the corresponding unicast address. McCanne also does not expressly disclose the resolving of the anycast address comprising sending an anycast resolution query to the anycast address according to an anycast resolution protocol [see rejection of claim 1 under McCanne.2, in view of Bhattacharjee].

17> McCanne.2 is directed towards a content distribution system and specifically moving data streams from content producers to requesters of those streams. McCanne further discloses an information object repository that is enabled to directly obtain a copy of an

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information object at a corresponding unicast address [column 23 «lines 14-23 and 48-67»].

McCanne.2's cache corresponds to an information object repository, that interprets the URL request for an information object and subsequently retrieves the object from a particular Web server if the object is not currently located in the cache. It would have been obvious to one of ordinary skill in the art to modify McCanne with McCanne.2's enhanced repository capabilities. As discussed McCanne does disclose that the repository is capable of directly servicing client requests but was silent as to the functionality of such a capability.

McCanne.2 clearly provides a teaching of such functionality that would enable McCanne's repository to directly retrieve requested information objects from a server.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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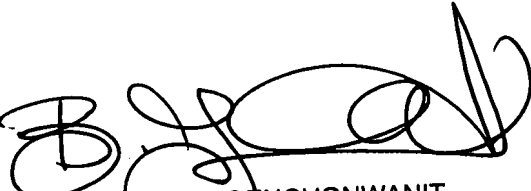
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is 571.272.3942.

The examiner can normally be reached on Monday-Friday [8:30 AM to 4:30 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571.272.3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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9/17/7